NEO CLEAN SYSTEM

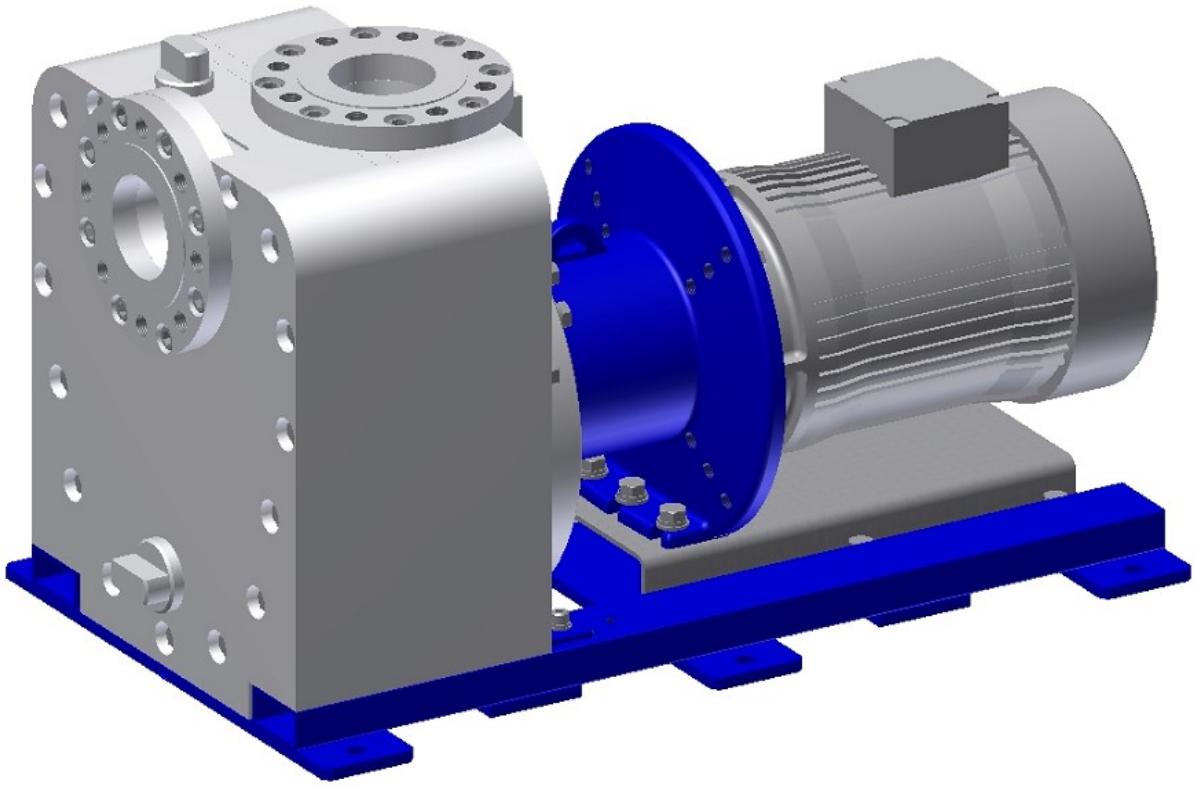
Corrosion-resistant Self-priming Magnetic Drive Pump

SUPER MAG

Instruction Manual

YD-8005GV3
YD-10007GV3 / YD-10010GV3

Version: 241128



World Chemical Co.,Ltd.

Preface

Thank you for purchasing World Chemical's self-priming magnetic drive pump "Super MAG". Before handling Super MAG, please read thoroughly this instruction Manual for using your pump safely and efficiently for a long time.
After reading this instruction Manual, store it in a safe place so you can refer it anytime.

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Safety precautions (To be observed at all times)

To prevent danger to the user and others as well as property damage, the information that must be observed is described as follows.

- The following symbols classify the degree of danger and explain the damages that could occur when its contents are ignored or the pump is used improperly.

⚠ **Warning**	Non-compliance can lead to fatal or serious injury.
⚠ **Caution**	Non-compliance can lead to some injury and/or property damage.

- Safety rules to be observed are classified and explained under the following symbols. (The following are examples of picture displays)

⚠	This symbol cautions people to be careful.
⊘	This symbol signifies that this action must not be taken.
❗	This symbol indicates that the action must be taken.

⚠ WARNING

(1) Dangerous liquids and surroundings.
When using the pump for dangerous liquids or in surroundings (only explosion prevention specifications), adhere to facility standards determined by law and conduct daily check to prevent leakage. If operate the pump under abnormal conditions, such as liquid leakage, it may cause serious accidents such as explosion or fire and personal injury. Regarding handing liquid, follow the liquid manufacturer.

(2) Do not use damaged or modified pumps.
Using the damaged or modified pumps may cause fatal accident, electric shock or pump damage. It is not covered by our warranty.

(3) Caution when transporting or lifting the pump.
Always use the hoist belt for pumps that come with them. When pumps do not have hoist belts, lift them with bolt slings while watching the weight balance. It should be performed by qualified personnel with enough strong slings. The lightest pumps' weight is around 110kg, and do not carry the by hands as much as possible.

(4) Do not operate pumps with power on.
Do not inspect or dismantle pumps or motors with the power on. It may lead to personal injuries such as electric shock or getting caught in the rotor. Operate it with multiple safety devices such as the switch for main power supply, the operation switch, and the hand switch for the pump.

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(5) Connecting earth cable.
If using the pump without connecting earth cable to the motor, it may cause electric shock. Connect it by qualified personnel under the electric facilities technical standards and interior wiring regulations.

(6) Protect power supply cord.
Over-stretching, pinching and damaging power supply cords or motor lead wires may cause fire or electric shock to damage it. Place the terminal box cover at the original position.

(7) Install Current Leak Circuit Breaker.
The operation without a current leak circuit breaker may cause electric shock. Install it or an over current protection device, and prevent electric accidents or pumps damage.

(8) Caution when removing pump.
When removing the pump from piping, make sure to close valves on the suction/discharge piping and check no liquid leakage. Direct contact with liquid may be harmful and wear protective gear when performing operation.

CAUTION

(1) Unspecified use.

Do not use pumps for purposes other than specification in the spec sheet or the nameplate. Especially, check the motor specification (phase, voltage and frequency). Unspecified use may cause personal injuries, the pump or peripheral equipment damage.

(2) Restrictions of operator.

Transportation, installation, wiring, operation, servicing, and inspection should be performed by qualified personnel who have full knowledge on the handling the pump.

(3) Caution when opening package.

Open the package after checking upside down of the product. When opening a wooden crate, be careful of nails and silvers to get the product out without hurting you.

(4) Ventilation.

Do not place objects around the pump that might obstruct ventilation as the motor heats up. In handling toxic or odorous liquids, have the pump situated in a well-ventilated place to prevent poisoning.

(5) Repairs and returning the pump.

When repairing the damaged pump, contact your supplier. If sending the pump back by express, wash the interior and exterior with fresh water and check it without liquid. Then, wrap with a vinyl bag and pack it.

(6) Plastic (resin) parts.

The pump is made of resin and it may cause fatal accident for strong impact. Do not hit and get on top of the pump. Also attach piping supports not to apply any pipe load to the pump.

(7) Pump starting.

Check the direction of rotation at the starting up of the pump. In this time, open the suction and discharge valves and check no liquid leakage from the pipe connection. After exhausting air and filling the pump with liquid, check the direction of rotation by switching quickly. If the rotation is in reverse, switch two of the three phases in the three-phase power supply to change the direction of rotation. Make sure to power off before wiring it.

(8) Disposing of scrapped pump.

When disposing scrapped pumps, remove adherent liquid and discard it as industrial waste in law.

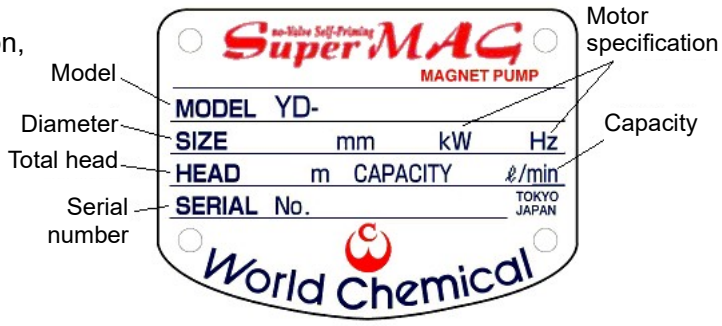
(9) Outflow protection.

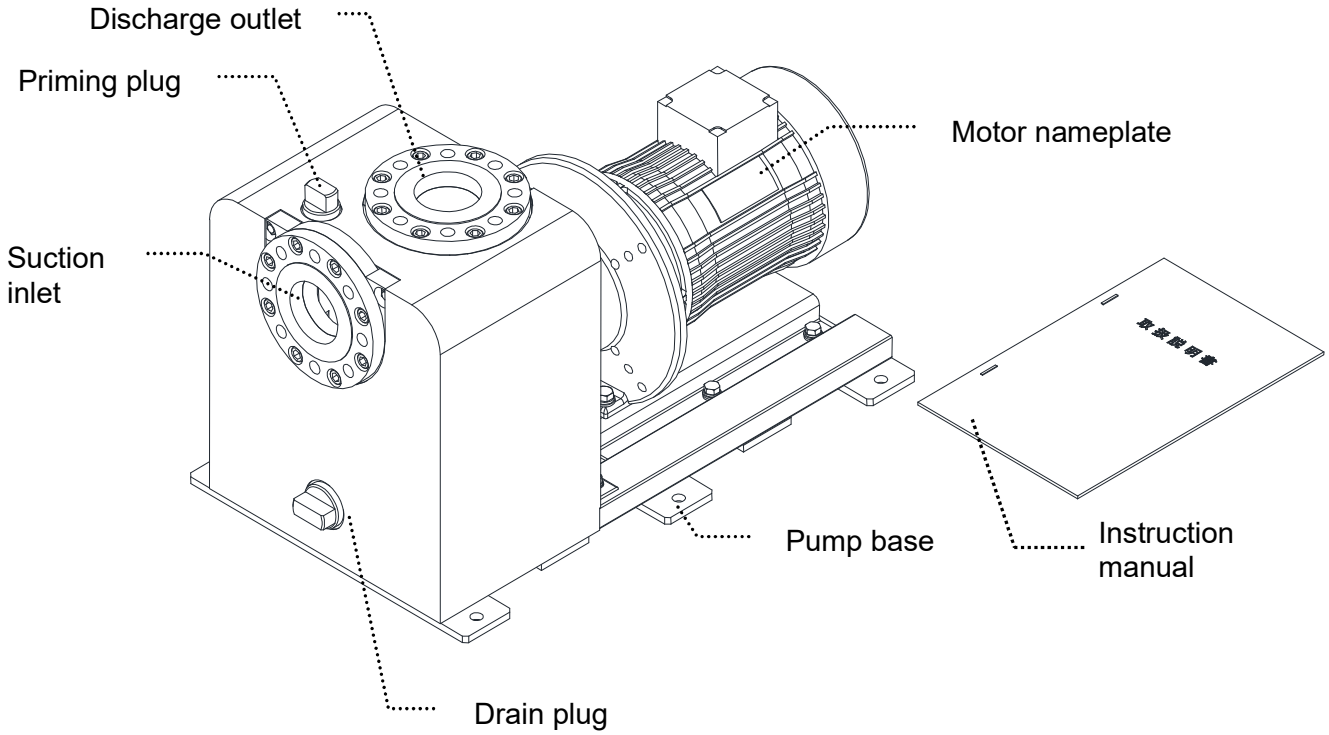
Just in case liquid leaks to break the pump or pipes, take appropriate preventative measures.

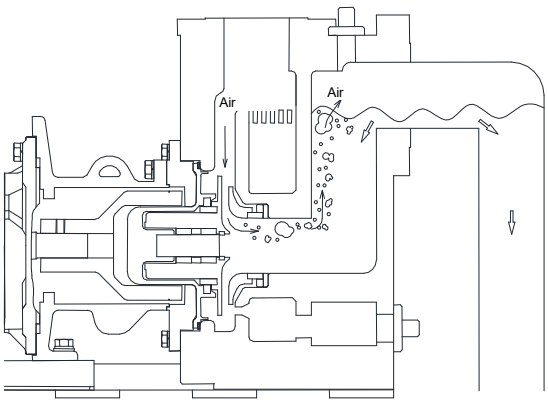
Unpacking check

Check as follows and contact your supplier when you have any questions.

1. The indication in the nameplate (model, total head, capacity, motor specification, voltage and motor specification) is the same as your order.
2. Accessary is stocked with.
3. There is any damage and loose bolts during transportation.







Principle of self-priming

After stopping operation, the liquid flows backward, but the original siphon cut structure, which sends air in the shortest path, shuts off back-flow liquid instantaneously and keep a sufficient amount of self-priming water in the casing.
Therefore, it is not necessary to pour priming liquid from the second operation and on.

Model description

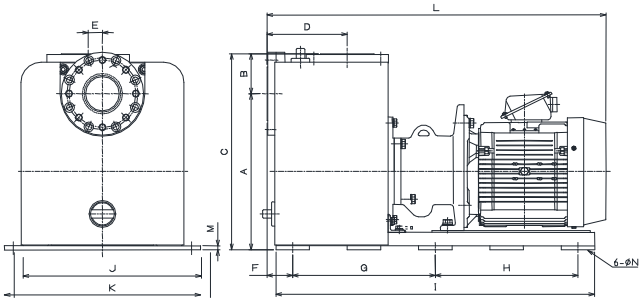
Y D - 80 05 GV - PP - KP 5 2 - M V
(1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) Bore:
80: Suction 80A × Discharge 80A
100: Suction 100A × Discharge 100A
(2) Motor output
05: 3.7kW
07: 5.5kW
10: 7.5Kw
(3) Pump model
GV3: Self-priming magnet drive pump
(4) Pump material
PP: Polypropylene
(5) Bearing/O-ring material
KP: SiC/FPM (DAI-EL)
KE: SiC/EPDM
(6) Frequency
5: 50Hz
6: 60Hz
(7) Limit of specific gravity
1: 1.1 (YD-10007GV 60Hz)
2: 1.2
(8) Motor specification
No mark: Totally-enclosed outdoor high efficiency type (IE2 class)
M: Explosion-proof outdoor type or pressure-resistance/explosion-proof outdoor type
(9) Motor voltage
No mark: 3 Phase 200V/220V
V: 3 Phase 380/400/440V

Specification

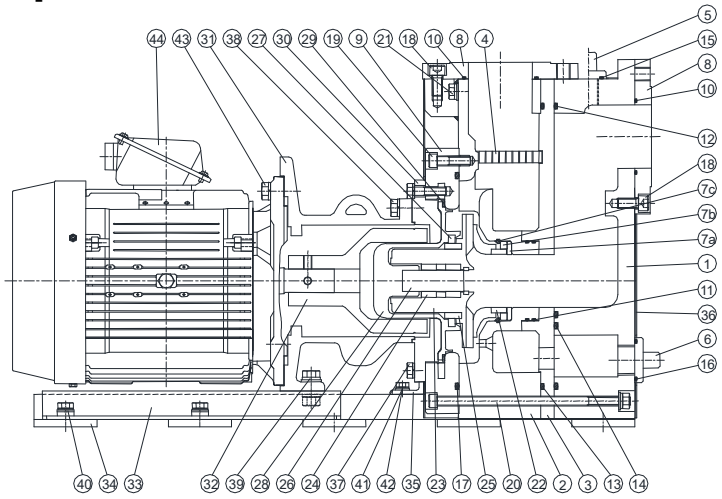
Model		8005GV3	10007GV3	10010GV3
Bore (Suc.×Dis.)		80A×80A	100A×100A	
Motor Output		3.7kW	5.5kW	7.5kW
Standard Performance (m-L/min)	50Hz	20-500	14-800	12-1200
	60Hz		12-800 (S.G.1.1)	
Weight (Kg)		110	186	193
Liquid Temperature		0~70℃		
Self-priming limit height (m)		4.0 (for clean water at 20 degree)		

Outline dimension



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
8005GV3	348	89	437	180	32	57.5	320	320	715	400	440	763.5	9	φ15
10007GV3	380	102	482	211	31	212.5	310	310	850	460	500	908	9	φ15
10010GV3														

Parts description / Material / Structure



NO.	Parts Name	Qty	Material		Set contents
			YD-8005GV3	YD-10007/10010GV3	
1	Suction casing	1	PP	PP	Front casing set
2	Discharge casing	1	PP	PP	
3	Separating board	1	PP	PP	
4	Grating board	2	PP	PP	
5	Priming plug	1	PP	PP	
6	Drain plug	1	PP	PP	
7a	Thrust collar	1	SiC	SiC	
7b	Front wearing	1	SiC	SiC	
7c	Retainer ring	1	CFR-ETFE	CFR-ETFE	
8	Flange	2	PP(80A)	PP(100A)	
9	Ring adapter	1	PP	PP	
10	O-ring for flange	2	EPDM/FPM (G-80)	EPDM/FPM (G-90/110)	
11	O-ring for inner pipe	2	EPDM/FPM (G-85)	EPDM/FPM (G-110)	
12	O-ring for casing	1	EPDM/FPM (AS-568-381)	EPDM/FPM (AS-568-383)	
13	O-ring for separating board	1	EPDM/FPM (AS-568-382)	EPDM/FPM (AS-568-385)	
14	O-ring for casing	1	EPDM/FPM (P-105)	EPDM/FPM (P-90)	
15	O-ring for priming plug	1	EPDM/FPM (P-30)	EPDM/FPM (P-30)	
16	O-ring for drain plug	1	EPDM/FPM (P-44)	EPDM/FPM (P-44)	
17	O-ring for ring adapter	1	EPDM/FPM (G-250)	EPDM/FPM (AS568-453)	
18	Hex. socket head cap screw	16	SUS304 (M12*25)	SUS304 (M12*25)	
19	Hex. socket head cap screw	5	SUS304 (M10*40)	SUS304 (M12*45)	
20	Hex. socket head cap screw	7	SUS304 (M10*230)	SUS304 (M12*280)	
21	Hexgonal bolt	9	SUS304 (M10*210)	SUS304 (M12*240)	
22	Mouth ring	1	SiC	SiC	Impeller set
23	Impeller	1	CFR-ETFE	CFR-ETFE	
24	Bearing	1	SIC	SIC	
25	Rotating back wear ring	1	SiC	SiC	
26	Shaft	1	SiC	SiC	Rear casing set
27	Stationary back wear ring	1	SiC	SiC	
28	Rear casing	1	CFR-ETFE Kevlar reinforced	CFR-ETFE Kevlar reinforced	
29	Gasket	1	EPDM/FEP + FKM	EPDM/FEP + FKM	
30	Rear casing support	1	Ductile iron	Ductile iron	
31	Bracket	1	Ductile iron	Ductile iron	
32	Outer magnet	1	Ductile iron + Rare earth magnet	Ductile iron + Rare earth magnet	
33	Foot adapter	1	SUS304	SUS304	
34	Pump base	1	SS400	SS400	
35	Locked bracket	2	SS400	SS400	
36	Casing cover	1	SUS304	SUS304	
37	Hexagonal bolt	8	SUS304(M10*40)	SUS304(M12*50)	
38	Hexagonal bolt	4	SUS304(M12*30)	SUS304(5/8-11UNC*1 1/2)	
39	Hexagonal bolt	3	SUS304(M12*40)	SUS304(M12*60)	
40	Hexagonal bolt	4	SUS304(M10*20)	SUS304(M10*20)	
41	Hexagonal bolt	2	SUS304(M8*20)	SUS304(M8*20)	
42	Hexagonal bolt	2	SUS304(M8*50)	SUS304(M8*20)	
43	Hexagonal bolt	4	SUS304(M12*30)	SUS304(M12*45)	
44	Motor	1	Alminum alloy	Alminum alloy	

Handling instructions

3Because of the powerful magnetic force of this pump, extra precaution is necessary in addition to the normal one such as dry running or reverse rotation operation.

1. People with pacemakers and other electronic devices for maintaining bodily functions do not use this magnet pump. The inside magnet is more powerful than ordinary magnets used every day.
2. Do not place your hand between the magnets. If there are articles made of iron such as knives, scissors or iron masses nearby, the magnet could attract to them in an instant, causing injury to the hand holding the article or causing the plastic surrounding the magnets to crack.
3. Do not place floppy disks, computer memory or magnetic tapes, because they are easily magnetized.

Prohibited on conventional magnet pumps

1. Dry Running

   Dry running generates friction heat at sliding parts such as the shaft and bearing and plastic parts around them become deformed. As the result, the impeller eccentrically rotates, the pump does not work properly and damaged.

   - If the pump is operated without priming liquid during the suction valve is closed, dry running occurs.

2. Liquid with slurry

   Basically, do not use the magnet drive pump for liquid with slurry. Even if thin liquid with slurry is transferred by the pump, the pump and parts are damaged and make the life shorten.
   (If using the pump for liquid with slurry, consult us in advance.)

3. Cavitation*

   If the pump is used with cavitation, it may cause the pump vibration, the basic performance degradation or damage inside the casing.
   The causes may be that suction pipes are long, thin, many bending, high temperature liquid or strainers clogged.

   - Cavitation is the phenomenon that the liquid inside becomes low pressure locally by liquid action and air bubbles occur.
     (When air bubbles break, impact occurs and makes noise & vibration. It also causes the surface erosion and the performance degradation.)

4. Erosion

   The product is mainly made of PP. When purchasing it, consider the corrosion resistance against liquid and select the pump. The pump life may be shortened depending on the liquid type and temperature. When changing the transferred liquid or condition, consult us.

   - PP Tolerable temperature: 0 – 70℃
     Incompatible liquids: Nitric acid, concentrated sulfuric acid, chromium acid and strong oxidant such as sodium hypochlorite

Installing / piping precaution

1. Installing precaution

(1) If a large amount of air enters in pumps, it does not pump properly and causes a breakdown.
- The suction pipe is the state of the negative pressure. If air enters for the connection installing failure, liquid is not pumped and the temperature of priming liquid is raised. It may cause the pump damage.
- Use the suction pipe whose bore is the same as the suction inlet. Do not use the pipe which is bigger than the suction inlet, because it may cause the self-priming ability decline or failure.

(2) Place a strainer at the suction inlet to prevent foreign objects from entering the pipe. However, clean the strainer periodically to prevent clogging and minimize loss resistance.

(3) It is recommended to place check valves on the discharge pipe to prevent “water hammer”. At the bottom, place a bypass for air exhaust.
- The discharge pipe is long or the capacity is 10m and more.
- The tip of the discharge pipe is 9 m and more from the liquid level in a suction tank.
- Two or more pumps that are parallel to one another are used.

(4) Create bending sections or expansion joints on the piping to prevent pump deformation and liquid leakage caused by thermal expansion of pipe.

(5) The inside of the pump is mainly made of resin. Do not create any impact.

(6) Arrange the pipe flange and the pump flange parallel to one another and do not tighten the bolts excessively.
Bolt: M16, Recommended tightening torque: 12N・m (122kgf・cm)

(7) When installing, fit the dimension of the pump. If not, the casing may be damaged.

(8) Make sure to install the base with anchor bolts.

(9) Raise the piping 500mm and more at the discharge side not to reduce the self-priming ability.

2. Do not apply piping load.

(1) Install the piping support to apply the piping load completely.

(2) If it is possible for the piping to be expanded by high temperature liquid, the pump may be damaged by expansion. Therefore, install the extendable or flexible joint to prevent the load to the pump at the expansion.

(3) Prevent to use metal pipes as much as possible and use resin pipes.

3. Drain Ditch

(1) Arrange drain ditches as liquid leaks flows to a wastewater pit.

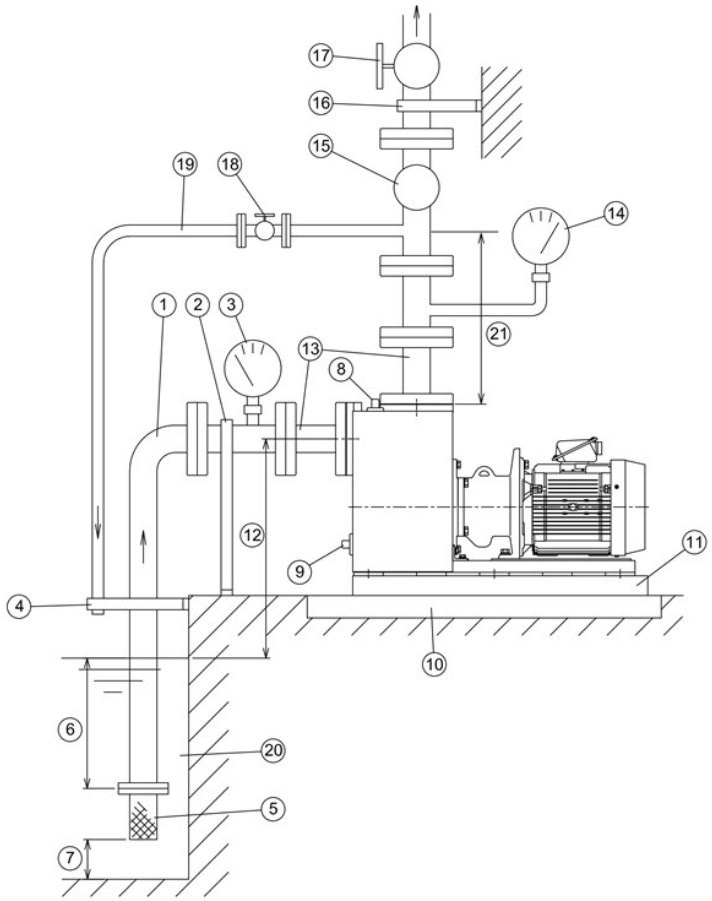
(2) If not, set a drain pan.

4. Precaution before priming liquid

After pouring priming liquid, tighten the priming water plug firmly. If the pump is operated with loosen one, it may cause self-priming failure.

Model	Min. priming liquid
8005GV3	6.0L
10007GV(F)3	10.0L
10010GV(F)3	

5. Recommended piping



<1> Suction pipe (pipe diameter: D)
<2> Pipe support
<3> Compound gauge
<4> Pipe support
<5> Strainer
<6> 500mm or more
<7> 2D or more
<8> Priming water plug
<9> Drain plug
<10> Drain ditch
<11> Pump foundation
<12> Self-priming height (4m or less)
<13> Expansion joint
<14> Pressure gauge
<15> Check valve
<16> Pipe support
<17> Sluice valve
<18> Sluice valve
<19> Air-release pipe
<20> Pit tank
<21> 500mm or more

■ Suction pipe

1. Be the same size of the suction pipe and pump diameter.
2. The horizontal lying length of the suction pipe is within 1m.
   If it is longer than 1m, the self-priming performance decreases significantly because the air volume in the suction pipe becomes greater. It may cause the pump damage.
3. Submerge the suction inlet at 500mm and more under the liquid level to prevent air entering.
4. When the pump is installed lower than the liquid level because of the up and down piping from the tank, attach sluice valves on the suction pipe for maintenance.
5. Avoid an air trap in the suction pipe and provide a slight upward slope toward the pump.

■ Discharge pipe

1. It is recommended to be the same of the discharge pipe and pump diameter.
   If the pump diameter is small, air exhausting becomes inefficiently during self-priming and the flow rate may decrease, because the loss resistance of the pipe increases.
2. Install check valves to prevent water hammer.
   - The discharge pipe is long or total head exceeds 10m and more.
   - The actual head (from the liquid level of the suction tank to the tip of the discharge pipe) exceeds 9m and more.
   - It is a condition where two or more pumps are used in parallel.
3. Install sluice valves on the discharge pipe for maintenance.
4. Install a pressure gauge to check the pump operation state during daily check.
5. Raise the piping 500mm and more at the discharge side not to reduce the self-priming ability.

Operation precaution

1. Before starting operation.
   (1) Clean pipes and tanks. If foreign objects enter the pump, not only the performance decrease, but also cause a breakdown.
   (2) Pour priming water from the priming water plug on the top of the suction casing and release air. From next time, it is not necessary to do it for the self-priming structure.
   (3) Check that the flange bolts are tightened firmly. Loose bolts may cause injury to people or damage to other facilities for liquid leakage.
   (4) Check the rotation direction of motor. If the motor rotates in reverse, rewire two phases of the three-phase power supply. It is clockwise as viewed from the motor fan.
   The motor rotation is the clockwise as viewed from the motor fan.
   (5) Operate the pump with the voltage which is indicated on the nameplate.
   (6) Tighten the drain plug again. If it is loosened at the start of the operation, the self-priming ability decreases dramatically and the pump may lead to damage.

2. No dry running.
   Sliding parts are cooled by self-circulation with pumped liquid. If the pump is operated with no liquid, it may damage by heat. If dry running occurs, do no suddenly pour liquid in it rather than leave it an hour and more. A sudden flow of liquid may rapidly cool the heated sliding parts and severely damage them beyond repair.

3. Liquid seal operation by mistake (Suction & discharge valves are closed.)
   When operating pumps with the suction & discharge valves closed, the inside is subjected to high pressure and temperature. If the pump is disassembled in this situation, steam and hot water are spewed. Make sure to check decreasing in temperature completely and do it.
   When the pump inside is damaged by liquid seal operation, not only parts but also pump may have to be replaced.

4. Range of the used liquid temperature
   Vapor pressure, viscosity, and corrosiveness are changed depending on the temperature of the used liquid. Use the pump under arrowing leeway of the pump performance in mind of them.
   - Range of the used liquid temperature: 0 – 70℃
     * The self-priming height and time are changed depending on the liquid temperature.

5. Change of the used liquid specific gravity or viscosity
   If the specific gravity and viscosity are changed a lot, the pump’s performance capacity, efficiency, and axial movement power may be changed by pumped liquid. Take them into consideration and use the pump within an appropriate leeway.

6. Use conditions change
   The pump is manufactured under the specification based on the meeting before purchase. If the use condition is changed, consult us.

7. Lose steps of magnet coupling
   When the magnet coupling loses steps, stop the pump within 1 minute. If the operation is continued as it now stands, the magnet force decreases.

8. Limit of the pump pressure resistance
   Be careful not to exceed the below limit.

Model	YD-8005GV3	YD-10007GV3	YD-10010GV3
Limit (MPa)	0.34	0.32	←

9. Easy bubbling liquid
   Transferring easy bubbling liquid reduces self-priming ability dramatically. Use the pump in consideration of it.

10. Intermittent operation
    Frequent switching on / off of a pump may hasten pump damage. Turn on the pump less than six times in an hour.

11. Minimum flow rate
    Operate pumps at the capacity higher than the following figure.

Model	**Minimum flow rate**
YD-8005GV3	20 L/min
YD-10007GV3, YD-10010GV3	30 L/min

12. Long rest during the cold months
    If the pump is not operated for a long time during the cold months, the pump may be damaged due to freeze liquid. Make sure to remove the drain plug to withdraw the liquid inside.

13. Restarting the pump after long rest.
    Priming water may decrease, so pour priming liquid.

Maintenance / Consumable parts

1. Daily check
   (1) Check that there are no vibrations or any abnormal noises and it works smoothly.
   (2) Compare the current value during operation with the rated current value and check that the operating load is normal. Also, the discharge pressure, capacity and current value is on the level than ever before.
   (3) Check the liquid level in the suction tank. (The empty tank during operation = the pump damaged)

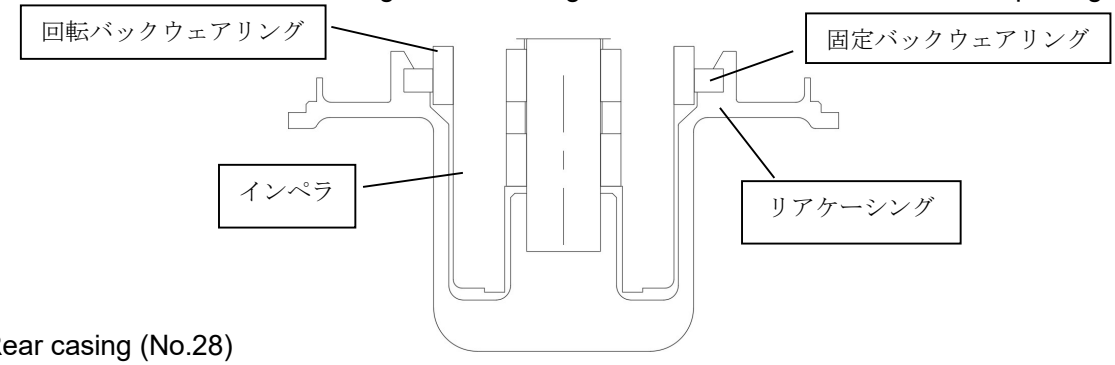
2. Periodical check
   (1) Periodically overhaul is recommended for a smooth operation.
   Recommended period of periodical check:
   Check every 12 months or every 10,000 hours, whichever comes first.
   (2) When replace or carrying pumps for repair, drain and wash the pump thoroughly.

3. Consumable parts check
   Periodically check the following consumable parts, and replace them if necessary.
   (1) Bearing (No. 24) The inner diameter of the new one is 80**GV3：φ25.5、100**GV3：φ38
   ◎Check no crack or damage.
   ◎Check that the rattle between the bearing and the shaft is not big. (The limit of the inner diameter is 80**GV3：φ26、100**GV3：φ38.5)
   ◎If the total abrasion with the shaft is 0.5mm and more, recommend replacing it.

   (2) Shaft (No. 26) The outer diameter of the new one is 80**GV3：φ25.5、100**GV3：φ38
   ◎Check no crack or damage.
   ◎Check that the rattle between the pump shaft and the bearing is big. (The limit of the outer diameter is 80**GV3：φ25、100**GV3：φ37.5)
   ◎If the total abrasion with the bearing is 0.5mm and more, recommend replacing it.

   (3) Rotating back wear ring (No. 25) The outer diameter of the new one is 80**GV3：φ90.0、100**GV3：φ128.0
   ◎Check no crack or damage.
   ◎Check that the rattle between the Rotating back wear ring and the Stationary back wear ring is big. (The limit of the outer diameter is 80**GV3：φ89.5、100**GV3：φ127.5)
   If the total abrasion with Stationary back wear ring is 0.5mm and more, recommend replacing it.

   (4) Stationary back wear ring (No. 27) The inner diameter of the new one is 80**GV3：φ90.0、100**GV3：φ128.0
   ◎Check no crack or damage.
   ◎Check that the rattle between the Rotating back wear ring and the Stationary back wear ring is big. (The limit of the inner diameter is 80**GV3：φ90.5、100**GV3：φ128.5)
   If the total abrasion with Rotating back wear ring is 0.5mm and more, recommend replacing it.



   (5) Rear casing (No.28)
   ◎Check no abrasion, scratch or damage in and out.

(6) Impeller (No.23)

◎Check no abrasion, scratch or damage to the surface.

(7) Mouth ring (No. 22)

◎Replace it if it has crack or damage.

◎Check the wear volume as viewed from the front.

(The difference of the new one is 80**GV3：12.5mm、100**GV3：12.0mm)

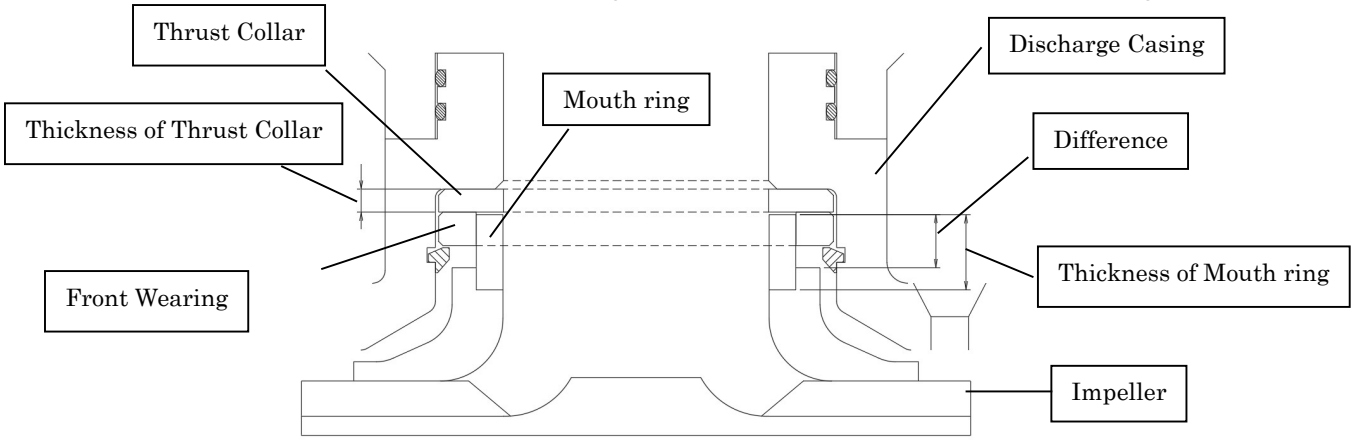
(The limit difference is 80**GV3：13.0mm、100**GV3：12.5mm)

◎Check that the rattle between the Front wearing and the mouth ring is big.

(The outer diameter of the new one is 80**GV3：ϕ76.4、100**GV3：ϕ89.7)

(The limit of the outer diameter is 80**GV3：ϕ75.9、100**GV3：ϕ89.2)

If the total abrasion with the Front Wearing is 0.5mm and more, recommend replacing it.



(8) Trust Collar (No.7a)

◎Check no crack and damage on Trust Collar.

◎Check the abrasion of the Trust Collar.

(80/100**GV3：The thickness of the new one is 5.5mm min. The limit of the thickness is 5mm.)

(9) Front wearing (No. 7b) The inner diameter of the new one is 80**GV3：ϕ76.5、100**GV3：ϕ90.2

◎Check no crack or damage.

◎Check that the rattle between Front wearing and the mouth ring is not big.

(The limit of the inner diameter is 80**GV3：ϕ77.0、100**GV3：ϕ90.7)

◎If the total abrasion with the mouth ring is 0.5mm and more, recommend replacing it.

(10) Casing set (No. 1 - 21)

◎Check no foreign objects inside.

(11) Gasket (No. 29)

◎Check less flexible, because rubber is hardened for degradation or swelling.

4. Replacement of consumable parts

Replace the following parts as set.

(1) Front casing set

Front casing (No. 1, 2) + Separating board (No. 3) + Grating board (No. 4) + Priming water plug (No. 5) + Drain plug (No. 6) + Flange (No. 8) + Ring adapter (No. 9) + O-rings + Bolts

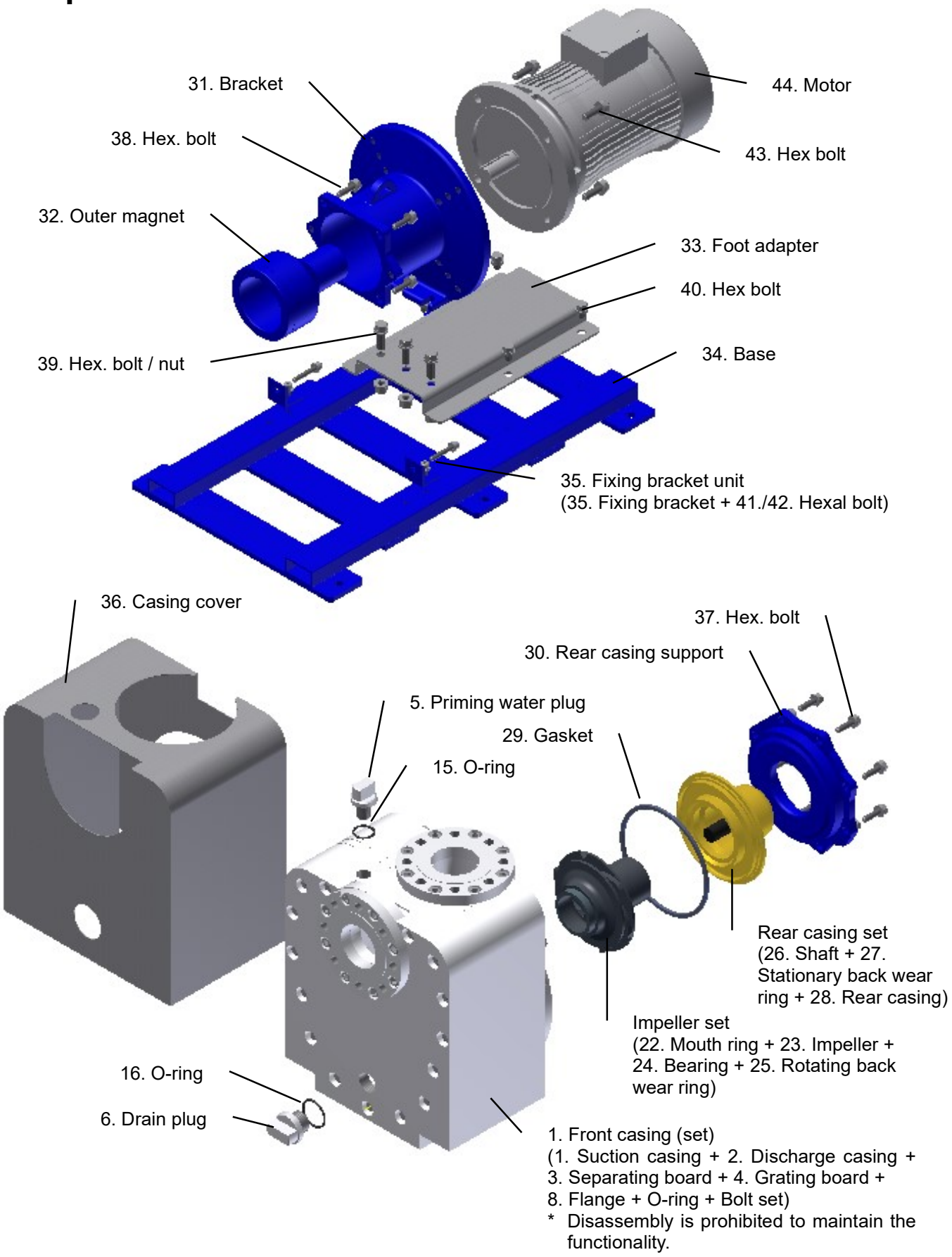
(2) Rear casing set

Shaft (No. 26) + Stationary back wear ring (No. 27) + Rear casing (No. 28)

(3) Impeller set

Mouth ring (No. 22) + Impeller (No. 23) + Bearing (No. 24) + Rotating back wear ring (No. 25)

Exploded view

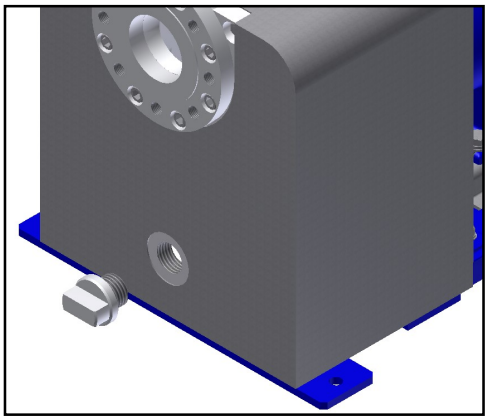


Disassembly & Assembly

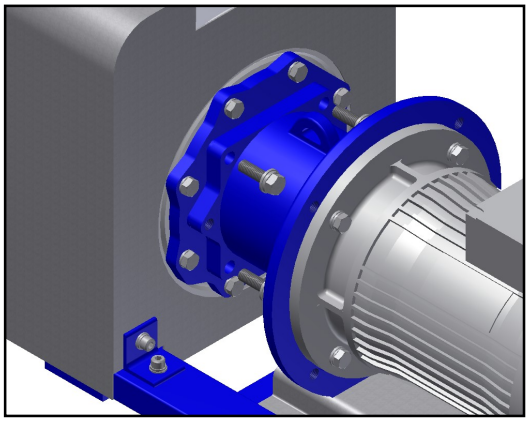
The magnets used in the pump have a strong magnetic force. Be careful of the handling when disassembly and assembly. Also, close the suction and discharge valves before it.

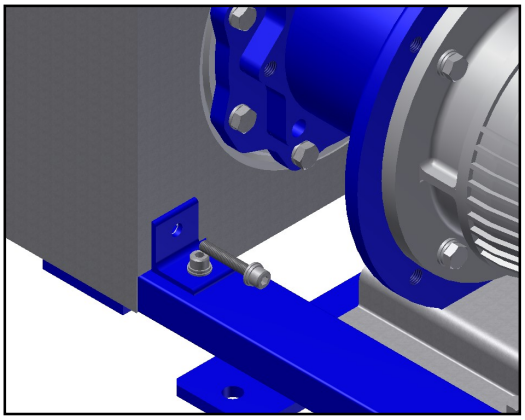
1. Disassembly procedure

(1) Discharge residual liquid in the pump and clean the interior thoroughly.



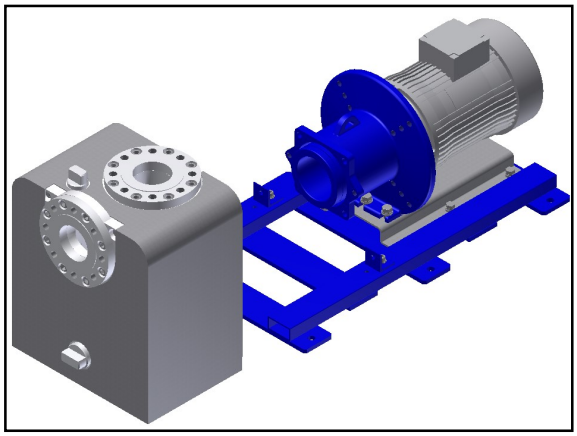
(2) Remove 4 hex. bolts (No.38) to fix the rear casing support and bracket.
Similarly, remove 2 hex. bolts (No.41) to fix the casing.



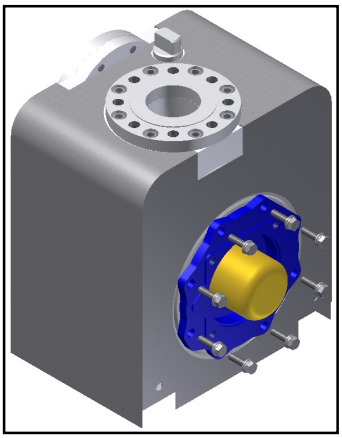


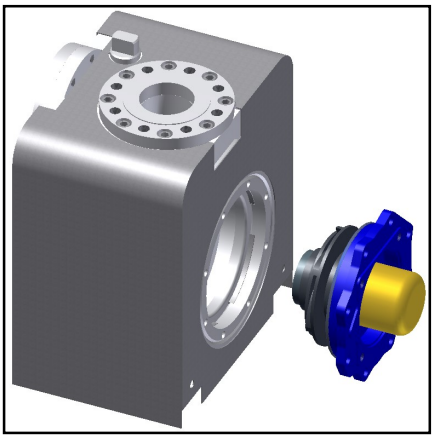
(3) Pull out the pump part forward (suction side) and separate it from the motor.

There is a strong holding force from the magnetic force between the pump and motor. Handle the pump with care not to get your finger caught.



(4) Remove 8 hex. bolts (No.37) to fix the rear casing support, and pull out the impeller and rear casing. Be careful of avoiding any scratch or shock with any parts (especially SiC material parts).



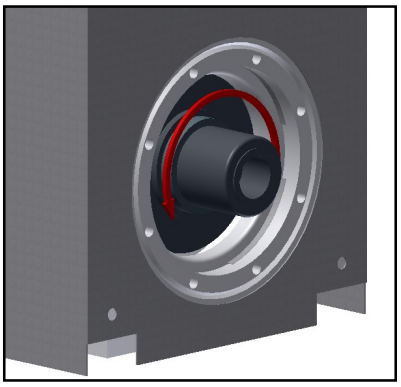


The residual liquid may flow out.

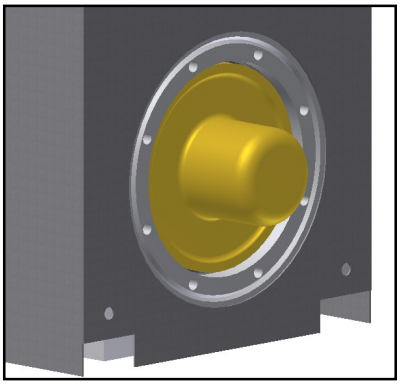
2. Assembly Procedure

Check the sliding parts and gasket with no dust or scratch. If any iron powder stays on the magnet of the impeller, make sure to remove it.

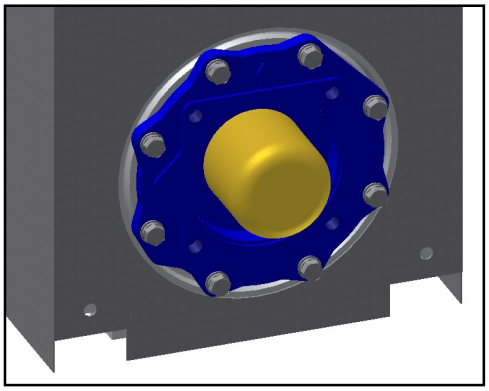
(1) Align the inside facing surface (No. 7b) of the front wear ring in the front casing with the outside facing surface (No. 22) of the mouth ring in the impeller. Check that the impeller rotates freely by hand.

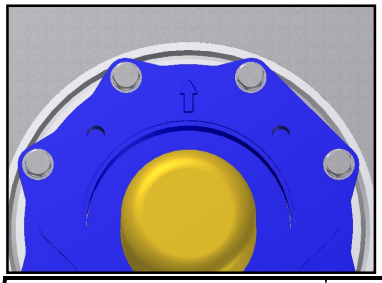


(2) Insert the shaft to the impeller bearing during putting a gasket in the rear casing.
Insert it carefully not to cause any chipping on the SiC shaft.



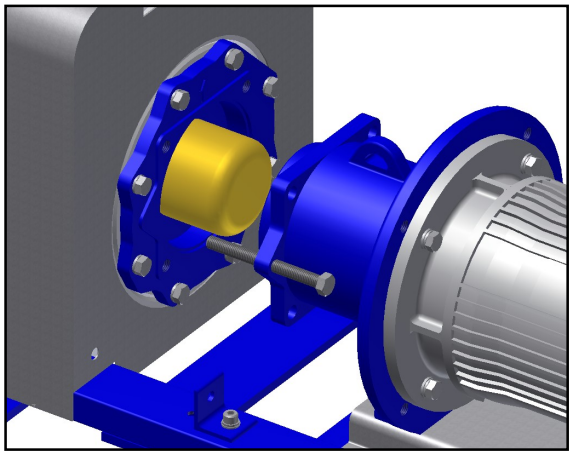
(3) Install the rear casing support to the rear casing with the arrow marking facing up, and fix it with hex. bolts (No. 37). The bolt tightening torque value is as follows.

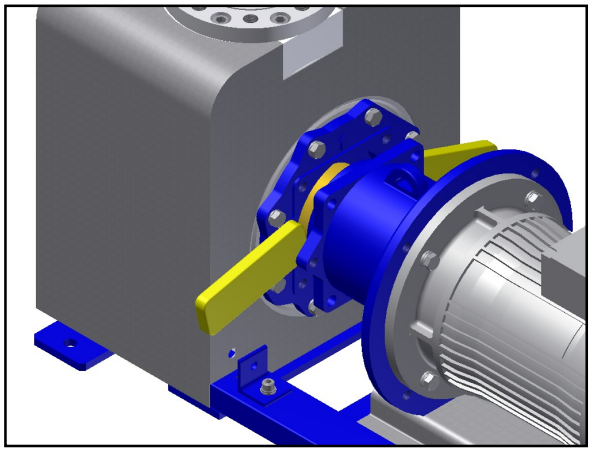




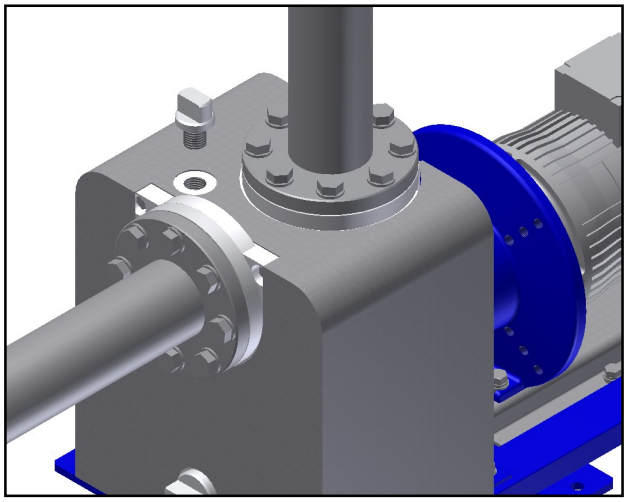
Model	Bolt tightening torque
YD-8005GV	10.0 N·m
YD-10007/10010GV	10.0 N·m

(4) For prevention of catching fingers, set the jack bolts to the bracket or attach the resin plate between the rear casing support and bracket. Then, connect the bracket with the rear casing support securely by both hands.
Loosen the jack bolts toward the motor and fix 4 hex. bolts (No.38).



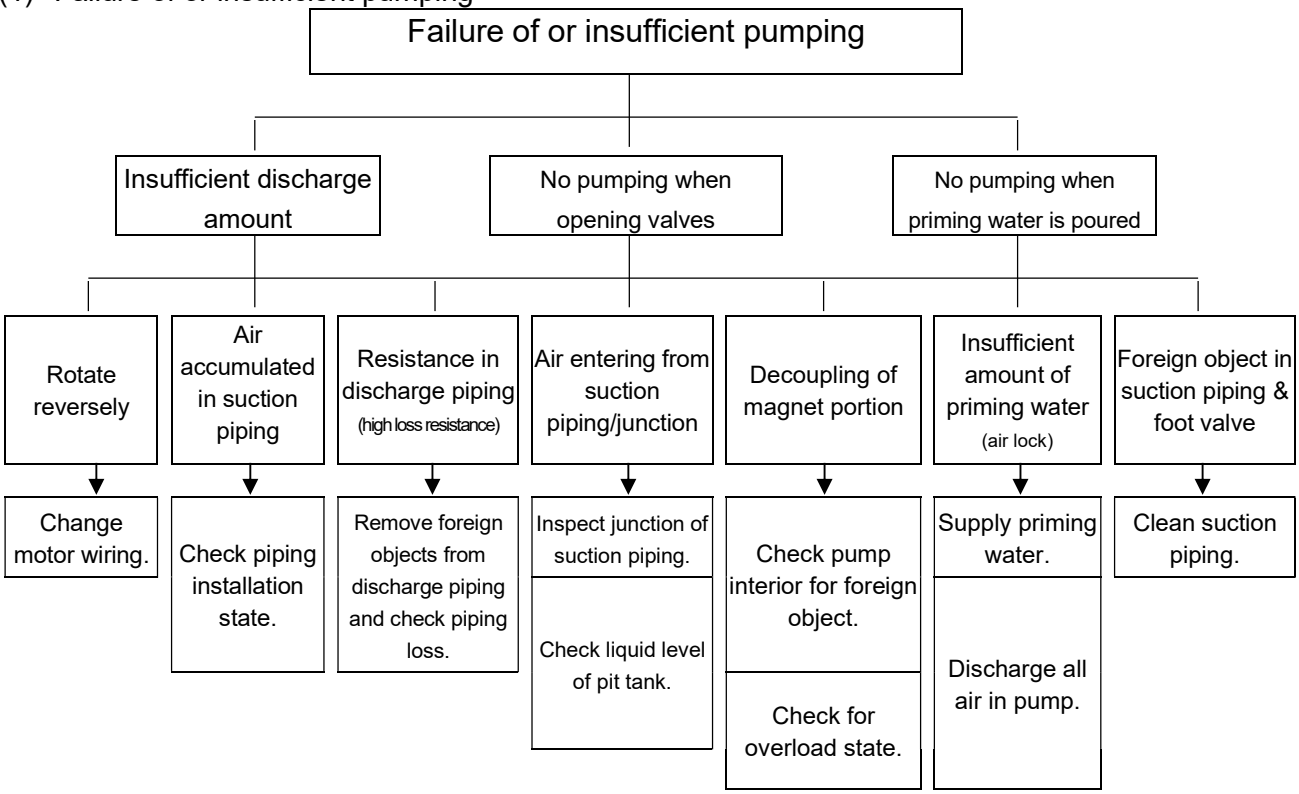


(5) After tightening all the bolts, rotate the motor fan by hand to check abnormal load.
Then, pour a sufficient amount of priming water from the plug after piping.

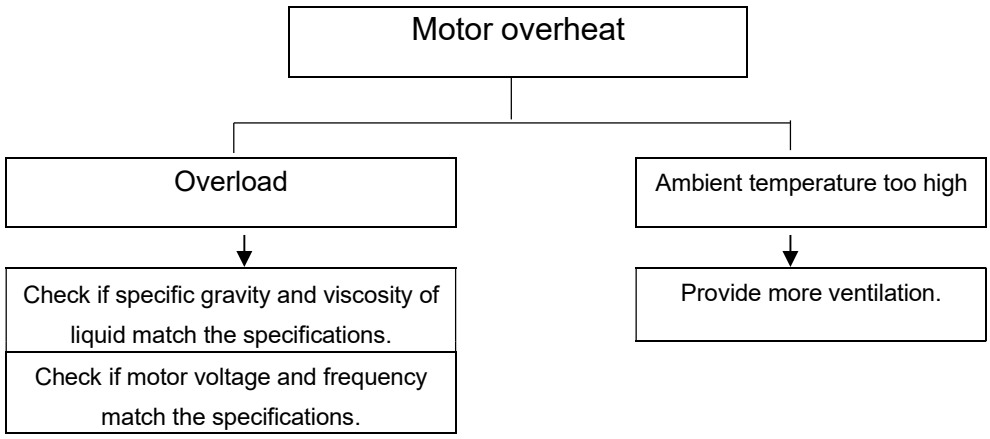


Troubleshooting

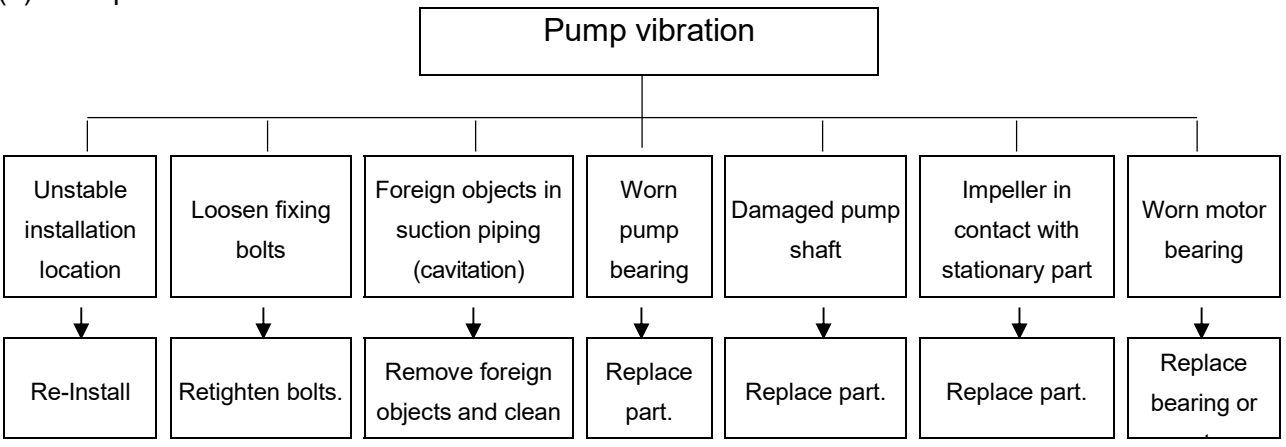
(1) Failure of or insufficient pumping



(2) Motor overheat



(3) Pump vibration



Warranty / Repair

1. Warranty period and coverage
   (1) The warranty period is 12 months from dispatched from our factory.
   (2) During warranty period, if the pump breaks down or is damaged at the use under the condition instructed in this manual due to manufacturing defect(s), the failure parts are repaired free of charge.
   (3) Even if the failure occurs within the warranty period, the followings are repaired or replaced for compensation in principle.
   - Breakdown or damage due to different use or safekeeping from the instructions in this manual.
   - Breakdown or damage due to incorrect use or unjust repair or modification.
   - Breakdown or damage as result of pollution, salt damage, gas damage, abnormal voltage or undesigned power (voltage, frequency) as well as fire, earthquake, flood disaster, lightning strike or other natural disaster.
   - Abrasion or degradation of consumable parts like a gasket or O-ring.
   - Breakdown or damage during transportation, for relocation or fall after your purchase

   (4) We cannot be responsible for the break down or damage of the customer-specified pump.
   (5) Irregularities or breakdowns due to chemical or hydrodynamic corrosion by liquid are not covered under the warranty. The material chosen at the time of the contract is only a recommendation. We do not guarantee the chemical resistance of the material.
   (6) If the determination of the cause for the breakdown or damage is questionable, it attributes to the negotiation between the customer and us.
   (7) Expenses or other damage incurred as a result of breakdowns at the use under the different condition from the instruction in this manual are not covered under the warranty.

2. Repair

Notice:
For repair, consult the supplier. When returning a pump, thoroughly clean and pack the wet parts kit.

If irregularities are detected during operation, stop the operation immediately for check. (Refer to the section on “troubleshooting”).
   (1) Consult your supplier or us for repair.
   (2) Read this manual again and re-check before requesting repair.
   (3) When visiting to a distance location for repair, the travel expenses are charged.
   (4) Inform the followings when requesting repair.
   - Model name and serial number
   - Use duration and condition
   - Damages parts and condition
   - Liquid (Name, Specific gravity, Temperature, Slurry)

   If liquid leaks during transportation, it is very dangerous, so make sure to clean inside thoroughly. When ordering replaced parts, specify the name in the parts name list (P6). Although, inform the parts’ number and material, too.

Installation record

Model:	
Purchase date:	Serial number:
Start date:	Supplier:

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